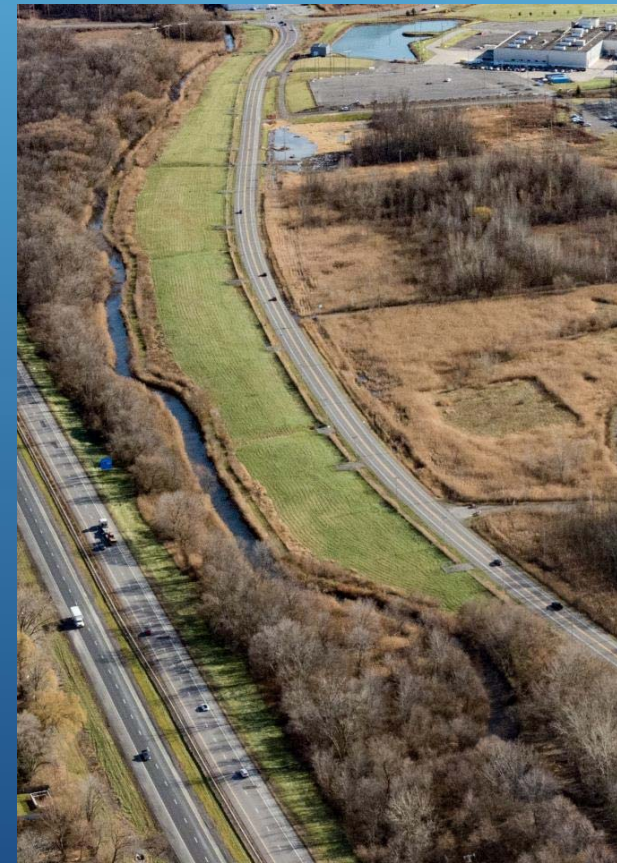


**LEY CREEK OPERABLE UNIT 2 (“OU-2”)  
RACER TRUST BRIEFING FOR USEPA R2 ON POTENTIAL PRPs  
JUNE 17, 2020**

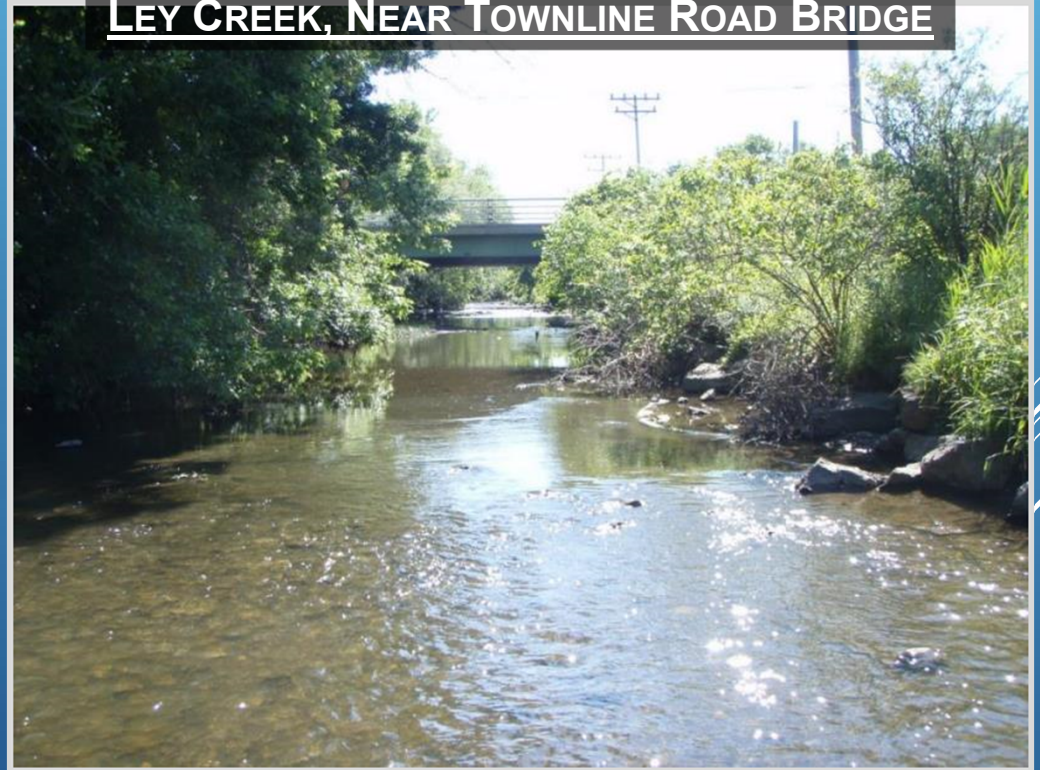




## EXECUTIVE SUMMARY

In seeking cost recovery and contribution for the expanding OU-2 cleanup, RACER has developed extensive information that supports our theory that Onondaga County through its Creek dredging projects and numerous upstream generator PRPs share in the liability for this Superfund cleanup. RACER looks forward to sharing this information with USEPA R2, beginning with this presentation.

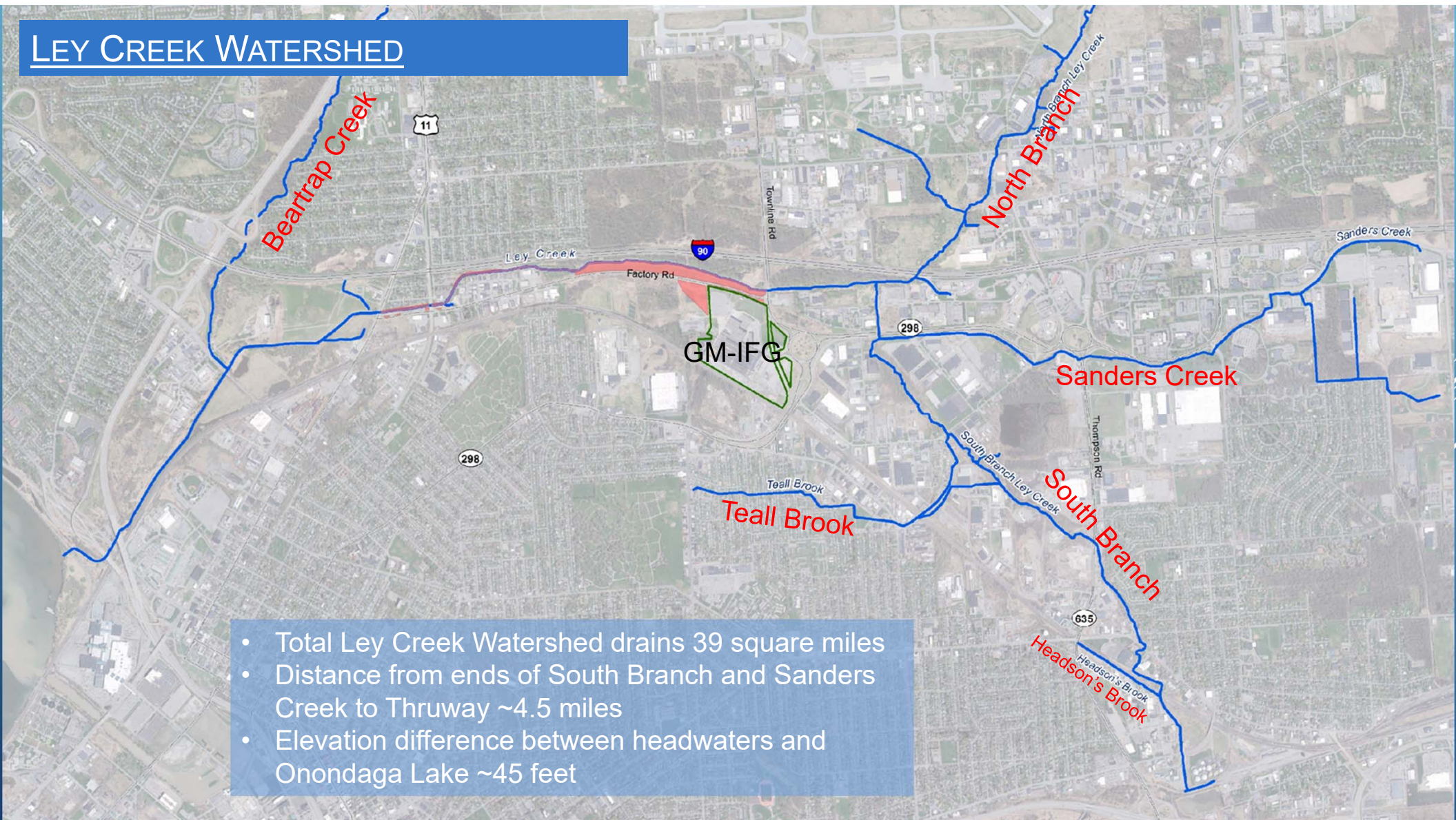
**LEY CREEK, NEAR TOWNLINE ROAD BRIDGE**





## LEY CREEK WATERSHED

- Total Ley Creek Watershed drains 39 square miles
- Distance from ends of South Branch and Sanders Creek to Thruway ~4.5 miles
- Elevation difference between headwaters and Onondaga Lake ~45 feet





County of Onondaga  
State of New York

### Potential Ley Creek Contamination Sources



81

11

Factory Ave

90

#### Other Areas of Interest:

- Ley Creek
- Upper Ley Creek Tributary
- Flow Direction
- CSX Railroad
- Potential Expanded OU-2 ROD Area
- Upstream PRP
- County of Onondaga Parcel
- Select National Grid Parcel
- Former Buckley Petroleum Parcel
- Onondaga County Transfer Station
- Former Mattydale Landfill
- Former Syracuse China Facility
- Syracuse China Landfill
- Clemett & Co., Inc. Parcel
- Select New York State Land

#### Selected Onondaga Lake NPL Sub-Sites:

- Ley Creek Dredgings Sub-Site
- Town of Salina Landfill Sub-Site
- Inland Fisher Guide Operable Unit 1
- Inland Fisher Guide Operable Unit 2
- Inland Fisher Guide Operable Unit 2
- Lower Ley Creek Sub-Site

0 0.5 1 Miles

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEY CREEK  
WATERSHED WITH  
ADJACENT SUB-  
SITES OF  
ONONDAGA LAKE  
NPL SITE;  
POTENTIAL PRP  
LOCATIONS, &  
OTHER AREAS  
OF INTEREST



## GM-IFG SUB-SITE – OPERABLE UNITS 1 & 2 & LEY CREEK DREDGINGS SUB-SITE





## LEY CREEK MAIN CHANNEL – COURSE CHANGES 1947-1980



- No documentation found yet as to locations of spoils placement during 1947 rechanneling
- During Onondaga County flood control improvements from 1970 -1980, excavated materials and spoils are documented as being deposited on personal property, against contract specs
- Onondaga County dredging contracts left spoil disposal to the contractor, but County did not track where spoils or excavated materials were deposited; only currently known records of detailed disposal locations is related to placement on private property owners land as fill per the owners' request

## LEY CREEK & TRIBUTARIES -- HISTORICAL CHANGES

### ❖ 1947-1952

#### ✓ Thruway (I-90) construction

- Thruway construction followed along the course of Ley Creek from east of Townline Road to around Route 11

#### ✓ Ley Creek realignment

- Parts of Ley Creek rechanneled to provide for Thruway route, most notably a large section both east and west of Townline Road was moved south to its current location

#### ✓ Thruway bridge construction

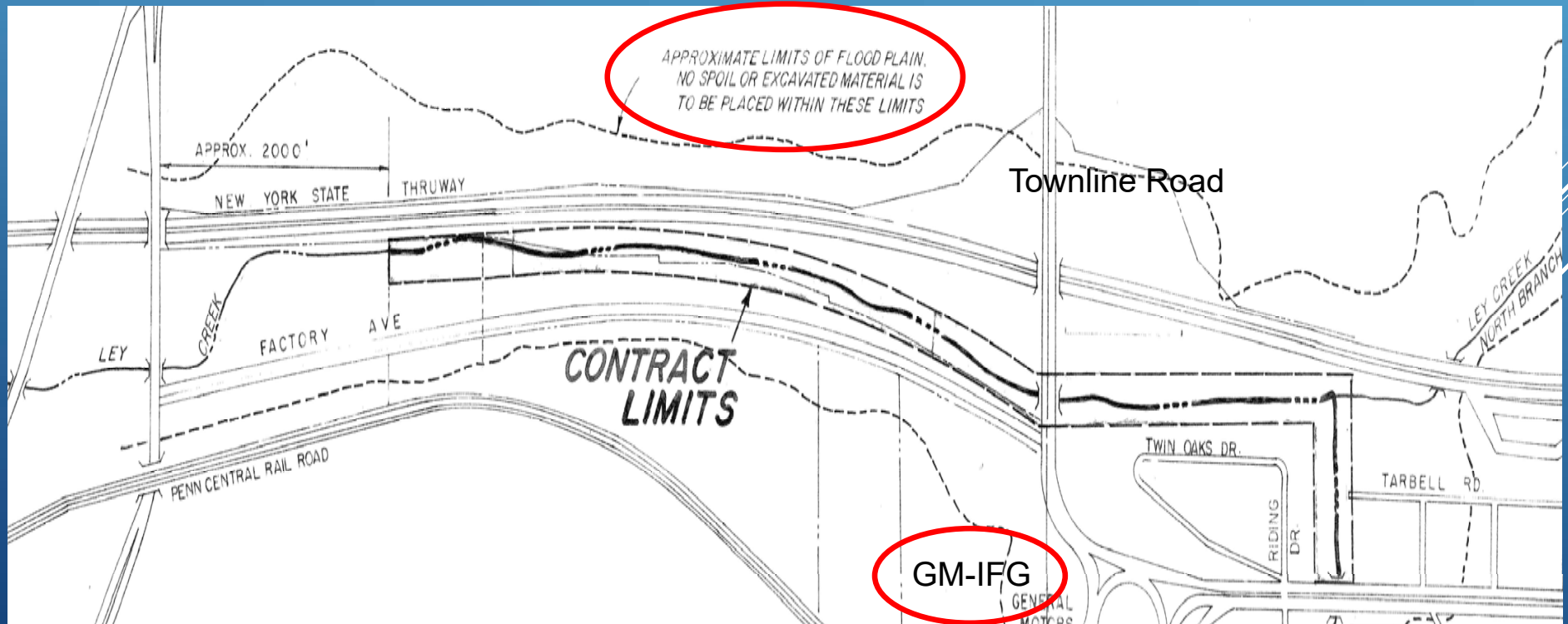
- Larger bridges constructed over Ley Creek at roads that remained open and were improved during Thruway construction, including Route 11, Lemoyne Avenue, and Townline Road



## LEY CREEK AND TRIBUTARIES -- HISTORICAL CHANGES

### Onondaga County Ley Creek Flood Control Contract #8

- County contract called for “no spoils or excavated materials” to be placed in floodplain. On-site engineer also told by County to record evidence of oil entering from GMC outfall.

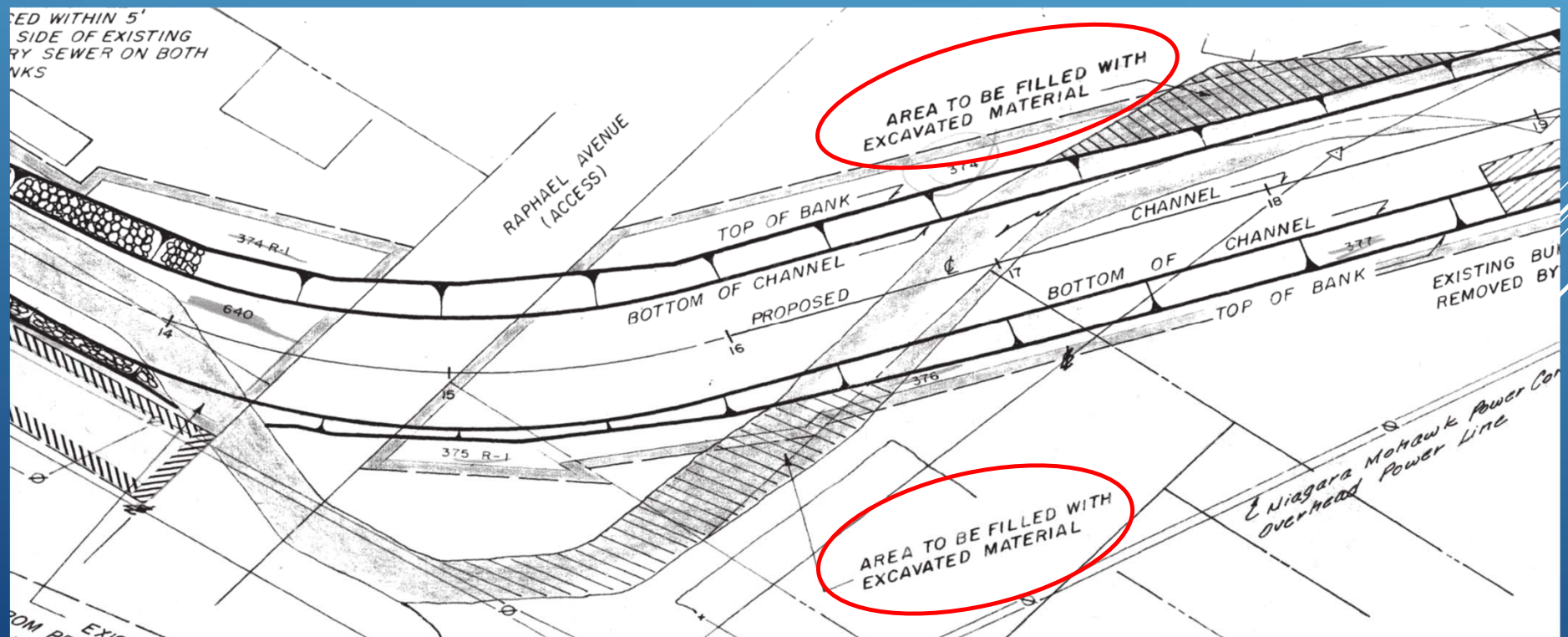




## LEY CREEK AND TRIBUTARIES -- HISTORICAL CHANGES

### Onondaga County Ley Creek Flood Control Contract #3

- Onondaga County contract called for specific areas to be filled with excavated material and channel realignment.







COMPOSITE AERIAL  
PHOTO SHOWING  
EARLY 1970'S  
LEY CREEK CHANNEL  
AS WIDENED IN  
VICINITY OF GM-IFG,  
SUPERIMPOSED ON  
SAME SCALE 2018  
AERIAL SHOWING  
CURRENT CHANNEL  
CONFIGURATION

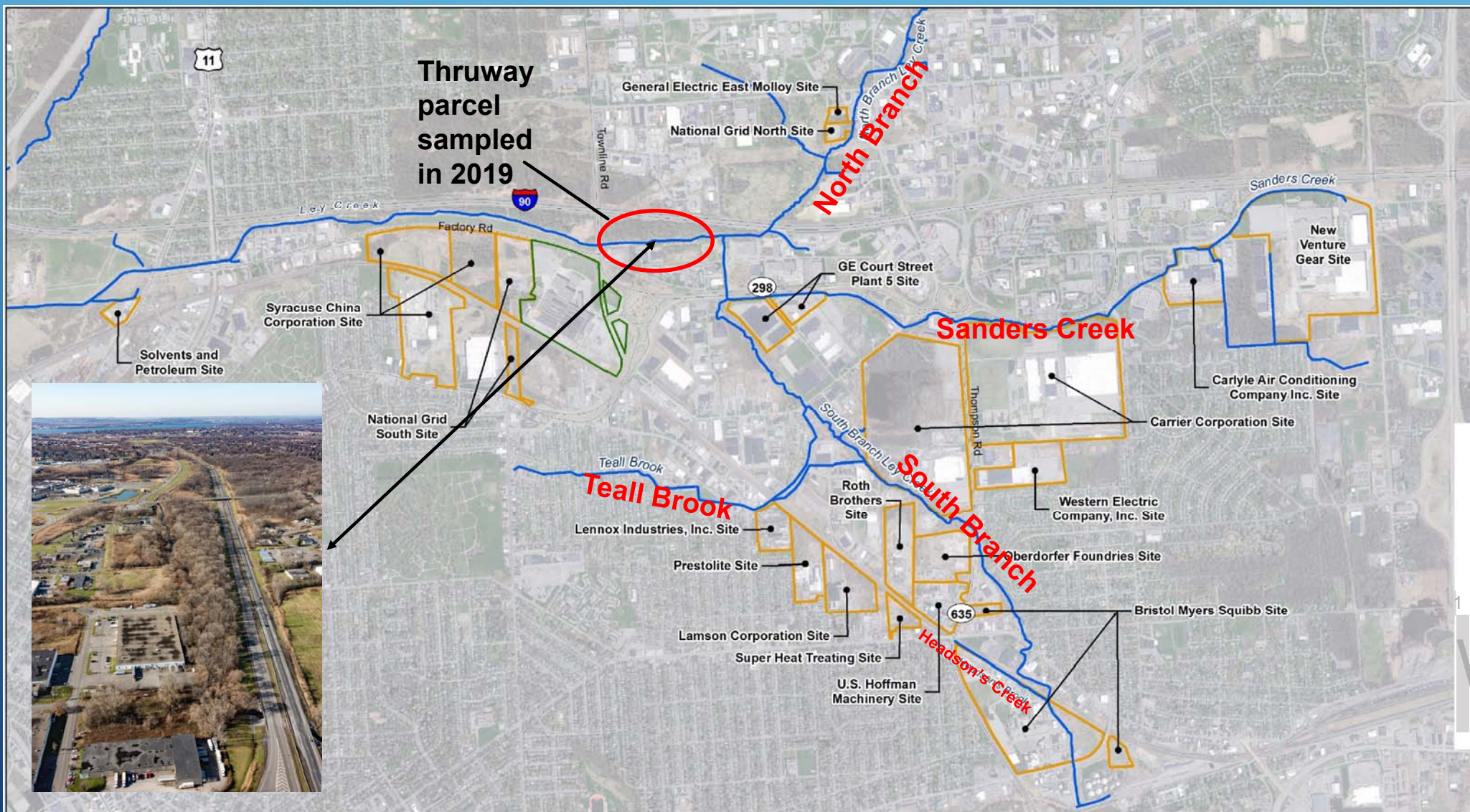


## CORRELATION OF EXPANDED OU-2 TO LEY CREEK DREDGING AND RECHANNELING

Expanded OU-2 follows the path of dredging, spoils placement, and rechanneling, which started prior to GMC operations and finished after County was aware of GMC discharges into Ley Creek.

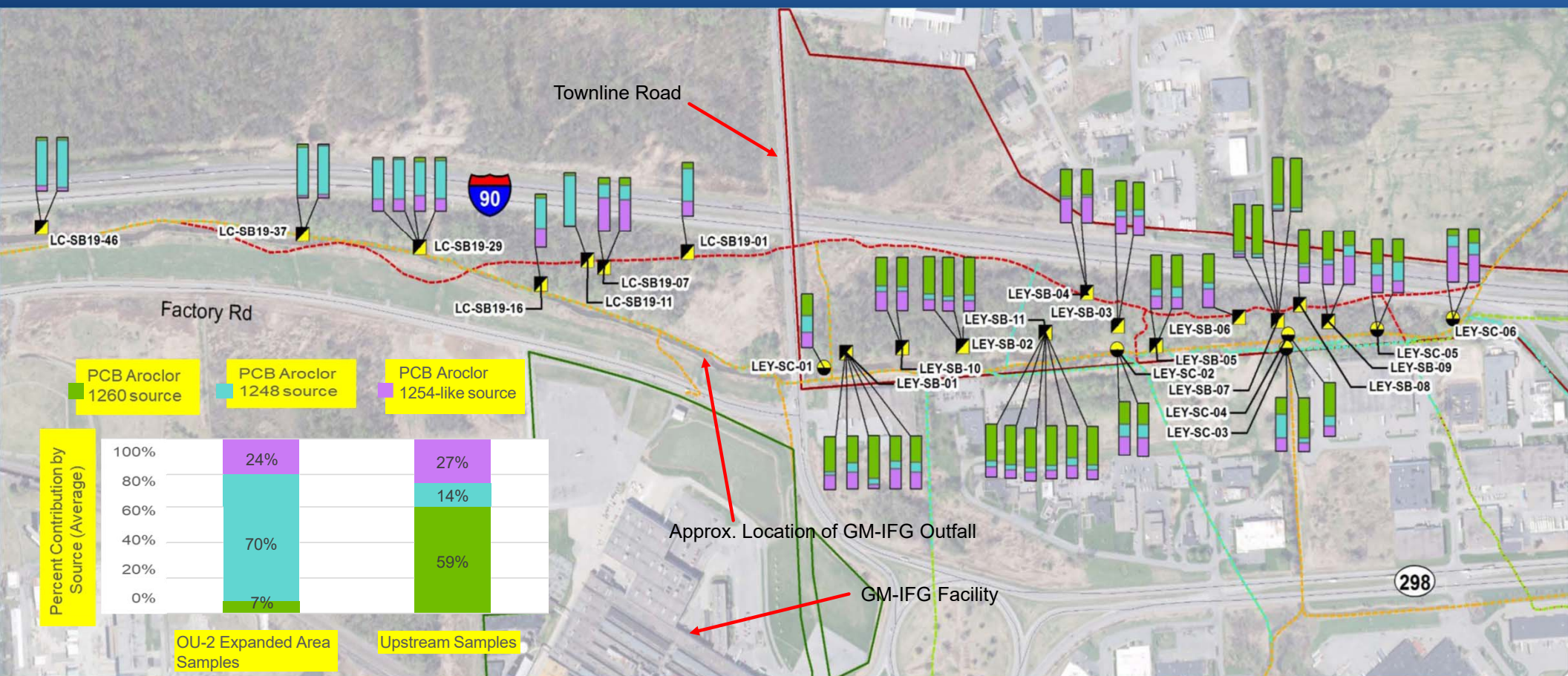








# 2019 PCB SAMPLING RESULTS FROM THRUWAY PARCEL ABOVE TOWNLINE ROAD





## 2019 PCB FINGERPRINTING FROM THRUWAY PARCEL ABOVE TOWNLINE ROAD

### ❖ Results:

- Fingerprinting methods compared sample results to PCB Aroclor standards to identify potential sources for various sample groupings and compare profiles in sediments with record for upstream PRPs
- Upstream Aroclor sources contributed average ~31% of same/similarly fingerprinted PCBs as in samples taken from OU-2 area
- Upstream PPRPs can be associated with upstream Aroclor sources including Carrier, Roth Brothers, GE Court Street, New Venture Gear, Bristol Myers Squibb, U.S. Hoffman

## UPPER LEY CREEK WATERSHED -- PCB AROCLOR USE

### ❖ Documentation Reviewed:

- ✓ Monsanto sales records
- ✓ Publicly available records of operation
- ✓ FOIL requests
  - New York State Spill Reports
  - Site-Specific Consent Decrees
  - Site-Specific Environmental Reports

### ❖ Information gaps:

- ✓ Limited sampling for Aroclors at upstream PRP sites
- ✓ No known PCB congener data (i.e., PCB fingerprinting) except that generated by RACER

### Common Aroclors Associated with Potential PRPs in Upper Ley Creek Watershed

	Associated With (No. Sites)	Analyzed In Media At (No. Sites)	Detected in Media At (No. Sites)
PCB Aroclor 1260	16	10	5
PCB Aroclor 1254	17	11	6
PCB Aroclor 1248	15	10	5



## PROPOSED TIERS AMONG GENERATOR PRPs NAMED BY RACER AS DEFENDANTS

**TIER I** - Considered the strongest evidence of PCB discharge to Upper Ley Creek Watershed

- ✓ PCBs detected in site media with a hydrological connection to Upper Ley Creek Watershed and confirmed PCB discharge pathway (either former or ongoing):

**TIER II** - A pathway exists in proximity to a confirmed or suspected PCB source, but no representative sampling was available along the discharge pathway.

**TIER III** - Pathways but limited evidence to assess the PCB content along a pathway

- ✓ Sites where a pathway may exist – stormwater infrastructure was present but no evidence confirming a PCB source was associated with pathway

## CURRENT LIST OF PRPs FOR OU-2

### GENERATOR TIER I

- General Motors [RACER]
- Bristol Meyers Squibb
- Carrier-UTC
- National Grid
- General Electric
- Crouse-Hinds
- Carlyle Air Conditioning-UTC
- New Process Gear – FCA & Magna
- U.S. Department of Defense

### GENERATOR TIER II

- Roth Bros – Aleris/Roth Bros. – Metalico
- Lamson – Gardner Denver & Syracuse Lepage
- Lennox Industries
- Oberdorfer/6181 Thompson Road, LLC
- Prestolite
- Syracuse China Company/Onondaga Pottery & Libbey Glass
- Amparit

### GENERATOR TIER III

- Jagar Enterprises, Inc./Super Heat Treating
- Fulton Iron & Steel
- Solvents & Petroleum
- Western Electric//Telesector Resources
- Center Circles 6420 – 6440 Deere Road

### ARRANGERS/TRANSPORTERS

Arranged for disposal of or transported contaminated Ley Creek sediments, banks, and floodplain soils

- Burko Corp. / Empire Pipeline
- Calicerinos & Spina–C&S Engineering
- Onondaga County



# SYRACUSE ARMY AIR BASE, A.K.A., MATTYDALE BOMBER BASE, SYRACUSE AIR FORCE STATION, HANCOCK FIELD/NY ANG BASE

## ❖ History:

- ✓ Built by U.S. in 1942 to assemble and test B-24 Liberator aircraft, as a staging and storage area, repairing and re-outfitting bombers
- ✓ 3,500-acre parcel originally with three 5,500-foot runways
- ✓ Site drains to Creek to south and Ley Creek North Branch to east
- ✓ Included parcels east and west of Townline Road now owned by Thruway Authority

## ❖ Environmental Data:

- ✓ 1974 onsite landfill environmental assessment of “swampy area drainage”
  - “Surface waters where being drained through ditches”
  - Had direct “outfall” to Ley Creek – assessment stated that drainage would be diked if found to have contaminants reaching Creek
- ✓ A final engineering report from 2014 noted 2.5 acres in SE of Site formerly fuel storage facility; numerous spills of jet/aviation fuels and PCBs occurred during active use



# CARRIER CORPORATION

## ❖ Site History:

- ✓ 1942 General Electric defense plant operations
  - July 1944 General Electric authorized \$25 million by U.S. for conversion of a turbine plant to build I-40 jet engines
- ✓ 1946 Carrier purchased first building (TR-1) a 660,000-square-foot plant from the U.S. (demolished 2011)
- ✓ 1980 Carrier employed approx. 7,100 in Syracuse



## ❖ Environmental Data:

- ✓ 2006 NYSDEC Consent Order; PCBs in Sanders Creek sediment attributable to Carrier up to 57.2 ppm
  - Removal of all sediment in Sanders Creek between Telergy Parkway and South Branch Ley Creek (1.7 miles)
- ✓ At least 42 transformers present in single building
- ✓ 6,000 tons of PCB-containing waste removed from site; PCBs detections in site media indicate widespread releases via impacted discharge pathways:
  - LNAPL up to 1,300 ppm
  - Stormwater up to 0.00098 ppm
  - Groundwater up to 0.45 ppm
- ✓ Discharge pathways to both Sanders Creek and South Branch Ley Creek



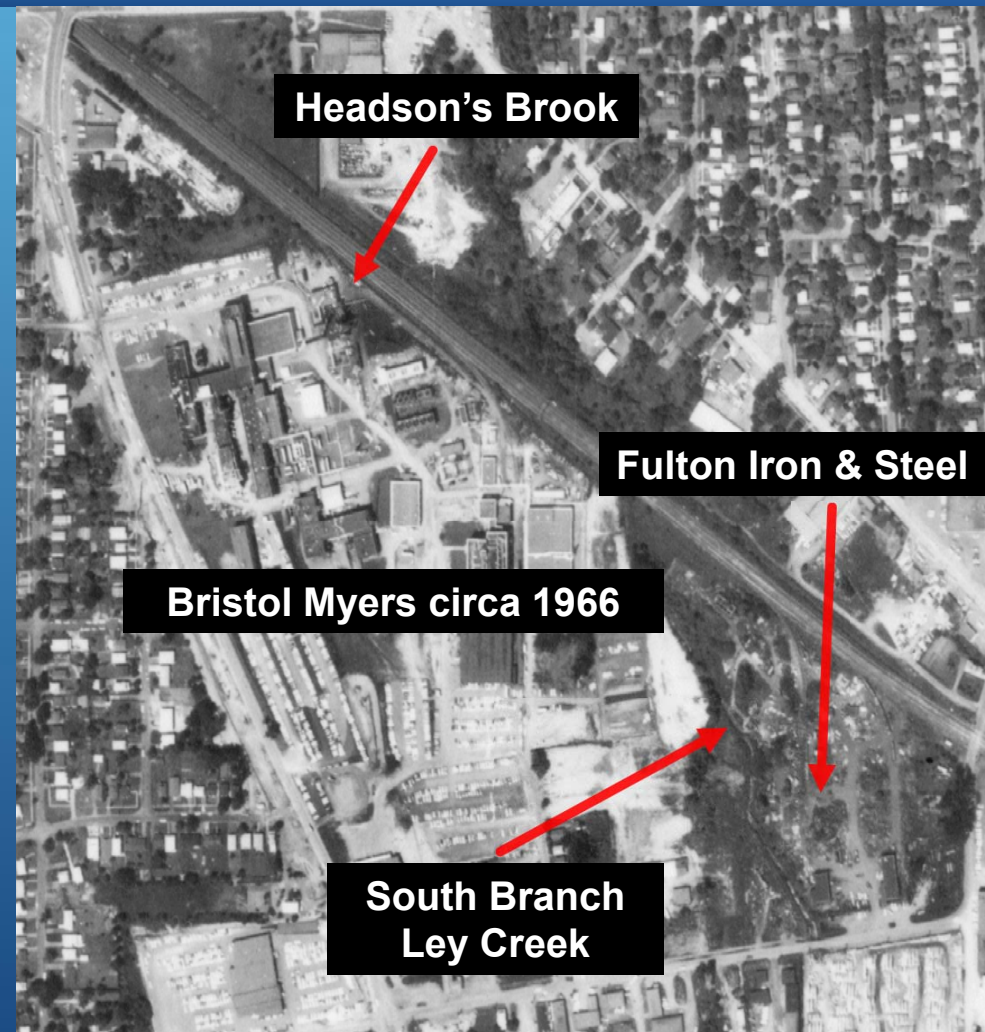
# BRISTOL MYERS SQUIBB/FULTON IRON & STEEL

## ❖ History:

- ✓ 1923-1943 – Cheplin Biological Laboratories – 50 employees
- ✓ 1943 – Cheplin purchased by Bristol Myers, enabling mass production of penicillin during WWII; facility made nearly 70% of the penicillin produced in the world until mid-2000s
- ✓ BMS purchased adjacent former Fulton Iron & Steel site and removed PCB-contaminated soil

## ❖ Site Environmental Data:

- ✓ This BMS facility purchased at least 6,000 lbs of Monsanto PCB-containing heat transfer fluid
- ✓ Waste manifests document 935,000 lbs of PCB-containing, 2/3rds of which believed to be related to soil excavated from Fulton Iron & Steel area
- ✓ PCBs detected in ditches within site boundaries



## PCB (AROCOR) NEXUS/RANKING BY HISTORICAL LOCATION OF POTENTIAL GENERATOR PRPs

Summarizes suspected & detected PCB Aroclor and congener content on PPRP locations. A given PCB compound reported as “detected” if detected in environmental media (soil, catch basin sediments, and stormwater). If PCB compound confirmed in site ops through a purchase record but has not been detected in site media, that compound is considered evidence of a suspected association.

Site	Aroclor									Total PCBs <sup>1</sup>	Other PCB Blends <sup>2</sup>	Inadverent PCBs <sup>3</sup>
	1016	1221	1232	1242	1248	1254	1260	1262	1268			
RACER Site												
GM-Inland Fisher Guide (GM-IFG) <sup>4</sup>	D		ND		D	D	D					
Tier 1												
Carrier Corporation (Carrier) <sup>5</sup>	ND	D	ND	D	D	D	D			D		
Roth Brothers <sup>6</sup>	D			D	D	D	D			D		
General Electric (GE) CourtStreet Plant 5 <sup>7</sup>	ND	ND	ND	ND	ND	ND	D					
New Venture Gear (NVG) <sup>8</sup>					D	D	D			D		
Bristol-Myers Squibb (BMS) <sup>9</sup>				D	D	D	D			D		
Tier 2												
U.S. Hoffman Machinery Company (U.S. Hoffman) <sup>10</sup>	ND	ND	ND	ND	D	D	ND	ND	ND			
Solvents and Petroleum <sup>11</sup>	D-OS			D-OS	D-OS	D-OS	D-OS					

	Suspected onsite because of industry practice or contained within equipment
D	Detected in environmental media within site boundaries
D-OS	Detected in offsite environmental media adjacent to the site
	Sampled for but not detected in environmental media



## POTENTIAL GENERATOR PRPs & PCB NEXUS TO OU-2

This table presents a summary of the site-specific evidence critical to support placing each site in a given Tier, adhering to specific criteria for each tier used to prioritize the sites in this table. This table is not an exhaustive list of all evidence, rather the information with the most direct link to the criteria.

Site	PCB Use Criteria	PCB Pathway Criteria	References
<b>Tier 1</b>			
Carrier Corporation (Carrier) 1940–1997	<ol style="list-style-type: none"> <li>Carrier manufactured HVAC units at this site. Carrier's manufacturing process likely involved cutting, pressing, shearing, rolling, spinning, and bending metal pieces to meet the specifications of the desired fabricated metal products.<sup>i</sup> Carrier purchased large volumes of PCB-containing heat transfer fluid, indicating that PCBs were certainly present in equipment used to support site operations.<sup>j</sup> Carrier stored as many as 42 transformers inside a single building (building TR-1), with 31,500 gallons of PCB-containing transformer oil documented onsite.<sup>k</sup> The transformers inside buildings at the site leaked to surrounding areas, as evidenced by a detection of 310,000 ppm total PCBs in wood block flooring surrounding a transformer pad in building TR-1.<sup>l</sup></li> <li>Carrier removed over 6,000 tons of PCB-containing waste from the Site, as documented in waste disposal manifests since 1983 and the present.<sup>m</sup></li> <li>In addition to the PCB detections surrounding the transformers, PCBs have been detected in several process areas. In building TR-1, PCBs were detected in crane grease, with PCB Aroclors 1254 and 1260 at concentrations up to 13.4 ppm and 90.3 ppm, respectively.<sup>n</sup> In building TR-3, use of lubricating oil baths may explain the detections of PCBs in groundwater, storm sewer infrastructure, soil, and LNAPL beneath the footprint of the former building.<sup>o</sup> These detections in process areas provide strong evidence of PCB use in site operations.</li> </ol>	<ol style="list-style-type: none"> <li>There are three documented pathways for contamination from the Carrier Site to reach Ley Creek: stormwater and overland flow.</li> <li>PCBs were detected in site media associated with the three pathways.</li> </ol> <p><b>Stormwater:</b> Carrier's operations at the site resulted in extensive releases to the site's stormwater system. In 2012, total PCBs were detected at a concentration of 61.6 ppm in sediment samples collected from a storm line pipe, east of the transformer yard. PCB Aroclor 1260 was detected in the bedding material of this storm line at a concentration of 56.9 ppm.<sup>vi</sup> To address this, in 2011, Carrier installed a system for treating PCB-contaminated stormwater.<sup>ix</sup> Given that the stormwater lines were installed at the site in the early 1940s, stormwater represented a likely pathway for PCBs for approx. 60 years.<sup>x</sup></p> <p><b>Overland flow:</b> PCBs were detected in waste disposal areas with no evidence of containment, presenting an opportunity for contaminated media to reach Sanders Creek and South Branch Ley Creek via overland flow. A wetland area exists between a landfill at the site and Sanders Creek. In 2014, Carrier reported total PCBs in concentrations up to 17.5 ppm in sediments collected between an onsite landfill and wetland area toward Sanders Creek.<sup>x</sup> This detection indicates that an overland flow pathway likely existed at the site.</p> <p><b>Groundwater:</b> PCB Aroclors 1221, 1242, 1248, 1254, and 1260 were detected in site groundwater with a maximum detected total PCB concentration of 0.45 ppm. Based on potentiometric surface maps of the site, groundwater at the site flows to the northwest, toward Sanders Creek, and to the southwest towards South Branch Ley Creek in the landfill area.<sup>xii</sup></p>	<p>i.(EPA 1995, 25; Knauf Shaw 2019, Carrier Site Dossier, 1; ENSAFE 2010a, FOIL057408 at FOIL057414; NYSDEC 2006, FOIL040459 at FOIL040482)</p> <p>ii. (Monsanto 1982, 5; Erickson and Kaley 2011, 5; Monsanto 1975, 32)</p> <p>iii.(Onondaga DOH 1971, FOIL266540 at FOIL266608–610; Carrier 1981, FOIL266630 at FOIL266698–700; ENSAFE 2010a, FOIL057408 at FOIL057415)</p> <p>iv (ENSAFE 2010a, FOIL057408 at FOIL057415–417)</p> <p>v. (Knauf Shaw 2019, Carrier Dossier Exhibit F, 1–20)</p> <p>vi.(United Technologies 2010, FOIL267285 at FOIL267290; ENSAFE 2009, FOIL074764 at FOIL074766; Knauf Shaw 2019, Carrier Dossier Exhibit A, 2)</p> <p>vii.(United Technologies 2010, FOIL267285 at FOIL267290; AECOM 2017, FOIL056011 at FOIL056016, 535; ENSAFE 2015, FOIL0523328 at FOIL052335; ENSAFE 2013, FOIL057721 at FOIL057726; ENSAFE 2013, FOIL240856 at FOIL057726; ENSAFE 2014c, FOIL231328 at FOIL231374, 376; NYSDEC 2004, FOIL070629 at FOIL070631; NYSDEC Division of Water 2009, FOIL267541 at FOIL267541)</p> <p>viii (ENSAFE 2013, FOIL045515 at FOIL045521, 537, 539)</p> <p>ix (ENSAFE 2009a, FOIL220710 at FOIL220720; AECOM 2016c, FOIL062477 at FOIL062484)</p> <p>x (ENSAFE 2012, FOIL240808 at FOIL240818) xi (AECOM 2015, FOIL053528 at FOIL053642)</p> <p>xii (ENSAFE 2013, FOIL075706 at FOIL085822, 831; ENSAFE 2014b, FOIL085796 at FOIL075749, 752; ENSAFE 2014c, FOIL231328 at FOIL051561; ENSAFE 2015, FOIL052328 at FOIL052360; ENSAFE 2014a, FOIL051541 at FOIL051561; ENSAFE 2010b, at FOIL048205; AECOM 2015, FOIL053528 at FOIL053662)</p>

# SUMMARY & NEXT STEPS

## FOR FURTHER INFORMATION, CONTACT:

Carl Garvey  
RACER Trust

Mobile: 734-890-8591

Email: [cgarvey@racertrust.org](mailto:cgarvey@racertrust.org)

Charlotte Johnson  
RACER Trust

Email: [cjohnson@racertrust.org](mailto:cjohnson@racertrust.org)